AMENDMENT TO THE SPECIFICATION

Please replace the paragraph beginning on page 12, line 1 and ending on page 12, line 10 with the following:

Figure 1 is a diagram of an electrical system 10 of large equipment 12 such as a heavy truck. Electrical system 10 includes a battery 20, a high current load 22 and cables 24 and 26. Cables 24 and 26 have resistances R_1 and R_2, respectively and connect load 22 to battery 20. Figure 1 also shows connection points C, D and C', D'. Connections C and D are across load 22 and connections C' and D' are cross battery 20.

Please replace the paragraph beginning on page 12, line 11 and ending on page 13, line 3 with the following:

As discussed in the Background section, the resistances R_1 and R_2 of cables 24 and 26 can have a significant impact on the amount of power which can be delivered to load 22. Even if the resistance values are relatively small, because a relatively large current passes through cables 24 and 26, the resultant voltage drop can significantly reduce the voltage at points C and D and therefore the amount of power (or voltage) which can be delivered to load 22. In industrial equipment, it is often desirable to measure the resistance R_1 and R_2 of cables 24 and 26, respectively, in order to identify a cable with a resistance which is too high. One technique which has been used to measure the resistance of the cables is to pass a large current through the cable and measure the resulting voltage drop across the cable. However, this is a cumbersome test and requires electrical test equipment which is capable of handling the large current draw. The present invention provides an apparatus and technique

for measuring the resistance of a cable in a configuration~~s~~ similar to that shown in Figure 1.

Please replace the paragraph beginning on page 16, line 22 and ending on page 17, line 14 with the following:

Using the circuitry set forth in Figure 3, conductance values between the various connections shown in Figure 1 can be obtained. Using these conductance values, the resistances R_1 and R_2 can be determined using the following equations:

$$R_1 = (K_1/G_{CD'}) - (K_2/G_{C'D'}) \qquad \text{EQ. 3}$$

$$R_2 = (K_3/G_{C'D}) - (K_4/G_{C'D'}) \qquad \text{EQ. 4}$$

Where $G_{CD'}$ is the conductance measured between points C and D', $G_{C'D'}$ is the conductance measured between points C' and D' and $G_{C'D}$ is the conductance measured between points C' and D. The values K_1, K_2, K_3 and K_4 are constants and can be, in some examples, the same value, for example unity. The conductance values can be either direct conductance values or can be conductance values converted to a cold cranking amps (CCA) scale. When CCA values are measured, the values of R_1 and R_2 can be determined using the formula:

R1 = (3.125/CCA_CD')-(3.125/CCA_C'D')   EQ. 5

R2 = (3.125/CCA_C'D)-(3.125/CCA_C'D')   EQ. 6

The value of 3.125 can be adjusted based upon the particular CCA scale employed.